NAVAL WAR COLLEGE
Newport, RI

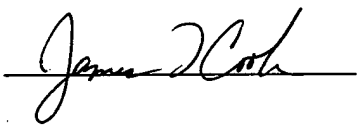
CURRENT JOINT DOCTRINE AND THE AREA AIR DEFENSE COMMANDER (AADC): ARE WE MAXIMIZING JOINTNESS?

By

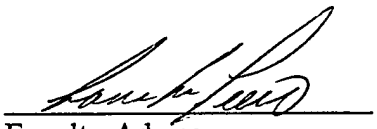
James L. Cook
Major, U.S. Army

A paper submitted to the Faculty of the Naval War College in partial satisfaction of the requirements of the Department of Joint Military Operations.

The contents of this paper reflect my own personal views and are not necessarily endorsed by the Naval War College or the Department of the Navy.

Signature: 

8 February 2000



Faculty Advisor
Lance Feero
Colonel, U.S. Army

REPORT DOCUMENTATION PAGE

1. **Report Security Classification:** UNCLASSIFIED

2. **Security Classification Authority:**

3. **Declassification/Downgrading Schedule:**

4. **Distribution/Availability of Report:** DISTRIBUTION STATEMENT A: APPROVED FOR PUBLIC RELEASE; DISTRIBUTION IS UNLIMITED.

5. **Name of Performing Organization:** JOINT MILITARY OPERATIONS DEPARTMENT

6. **Office Symbol:** C

7. **Address:** NAVAL WAR COLLEGE
686 CUSHING ROAD
NEWPORT, RI 02841-1207

8. **Title** (Include Security Classification): Current Joint Docrine and the Area Air Defense Commander (AADC): Are We Maximizing Jointness? (U)

9. **Personal Authors:** James L. Cook, MAJ, USA

10. **Type of Report:** FINAL

11. **Date of Report:** 8 February 2000

12. **Page Count:** 28 | **12A Paper Advisor (if any):** Col Feero

13. **Supplementary Notation:** A paper submitted to the Faculty of the NWC in partial satisfaction of the requirements of the JMO Department. The contents of this paper reflect my own personal views and are not necessarily endorsed by the NWC or the Department of the Navy.

14. **Ten key words that relate to your paper:**

AADC, JFACC, Joint Theater Air and Missile Defense (JTAMD), JFC, TMD

The Joint Force Commander (JFC) relies on joint doctrine for assistance in establishing the appropriate command structure to maximize JTAMD effectiveness and efficiency. Unfortunately, current joint doctrine fails to provide the JFC sufficient guidance with respect to the Area Air Defense Commander (AADC) organizational structure; the command relationship between the Joint Force Air Component Commander (JFACC), AADC and JFC; and clear delineation of JFACC, AADC, and TMD responsibilities. This paper proposes a change to joint doctrine by creating a Joint Theater Air and Missile Defense Component Commander (JTAMDCC). The JTAMDCC contributes significant JTAMD resources and expertise to the JTF, and provides a "TMD advocate" for the JFC. Additionally, the JTAMDCC may provide the JFC with the greatest unity of effort, and represents the most effective and efficient means to integrate the service components' formidable JTAMD capabilities.

16. Distribution / Availability of Abstract:	Unclassified	Same As Rpt	DTIC Users
	X		

17. **Abstract Security Classification:** UNCLASSIFIED

18. **Name of Responsible Individual:** CHAIRMAN, JOINT MILITARY OPERATIONS DEPARTMENT

19. **Telephone:** 841-6461

20. **Office Symbol:** C

Security Classification of This Page Unclassified

Abstract

In response to the worldwide proliferation of Theater Missiles (TMs), the United States currently employs and continues to develop "state of the art" Joint Theater Air and Missile Defense (JTAMD) weapon systems and a Command, Control, Communications, Computers, and Intelligence (C4I) system to rapidly acquire, process, and disseminate the vast amount of information required by our joint forces. The Joint Force Commander (JFC) relies on joint doctrine for assistance in establishing the appropriate command structure to maximize JTAMD effectiveness and efficiency. Unfortunately, current joint doctrine fails to provide the JFC sufficient guidance with respect to the Area Air Defense Commander (AADC) organizational structure; the command relationship between the Joint Force Air Component Commander (JFACC), AADC and JFC; and clear delineation of JFACC, AADC, and TMD responsibilities. While an accepted solution to these doctrinal shortcomings is to assign the JFACC as the AADC, I submit the JFACC will experience significant span of control difficulties when we face an enemy with credible air and/or TM capabilities. These difficulties result from balancing the significant responsibilities associated with the JFACC and AADC, and the competing demands for limited resources required to simultaneously accomplish both missions.

This paper examines a change to joint doctrine by creating a Joint Theater Air and Missile Component Commander (JTAMDCC). The JTAMDCC contributes significant JTAMD resources and expertise to the JTF, and provides a "TMD advocate" for the JFC. The JTAMDCC may provide the JFC with the greatest unity of effort to successfully integrate the U.S. service components' and our coalition partners' formidable JTAMD capabilities.

Introduction

As we enter the 21st Century, the United States faces a dynamic and uncertain world environment. President Clinton recently released a new National Security Strategy (NSS) that outlined three core objectives:

1. Enhance America's security.
2. Bolster America's prosperity.
3. Promote democracy and human rights abroad.[1]

To support these NSS objectives, our National Military Strategy is dependent upon a Continental United States (CONUS) based, power projection capability to any region in the world. Inherent in this strategy is the requirement to deploy to the region in order to conduct military operations. While multi-national coalitions, alliances, and the globalization of the world's economies help deter armed conflict, the fact remains that the United States Armed Forces are currently conducting numerous military operations around the world. Regional rivalries; terrorism; failed states; and the spread of dangerous technologies dominate news headlines and threaten the international security environment.[2] Additionally, we face current enemies and potential adversaries armed with credible conventional and asymmetric capabilities. One particularly disturbing asymmetric threat is the Theater Missile (TM), which can be configured with a nuclear, biological, or chemical warhead and employed as a Weapon of Mass Destruction (WMD).

The past decade witnessed a tremendous increase in the quantity and quality of TMs available to any country willing to purchase them. The relatively low cost of a TM, when compared to fixed or rotary wing aircraft, can provide even a "Third World" country with a limited offensive capability. Global Positioning Satellite (GPS) technology; increased range through improved fuel efficiency; and smaller, more lethal warheads make today's TM

accurate at extended ranges. These technological improvements, combined with a potential WMD capability, make TMs as much a political weapon as a military weapon."[3]

In January 1999, Secretary of Defense William Cohen issued a statement during a news briefing that "we are affirming that there is a (TM) threat, and the threat is growing, and that we expect it will soon pose a danger not only to our troops overseas but also to Americans here at home."[4] The Clinton administration's efforts to create and deploy a National Missile Defense (NMD) system is underway, and is expected to reach a proposed $10.5 billion price tag. Additionally, the TM threat has caused the administration to propose modifying the 1972 Anti-Ballistic Missile Treaty with Russia to accommodate the NMD system.[5] The fact that a potential enemy can use TMs to target population centers and other "political targets" makes the development of effective national and theater missile defense programs both a political and military priority.

Joint Vision 2010 recognizes the need for full dimensional protection defined as "control of the battlespace to ensure our forces can maintain freedom of action during deployment, maneuver and engagement, while providing multi-layered defenses for our forces and facilities at all levels."[6] Fortunately, the United States Armed Forces currently possess qualitative and, in some cases, quantitative advantages over our potential adversaries' conventional ground and air forces. However, we must never lose our ability to provide full dimensional protection for the Joint Force Commander's (JFC's) forces and other critical assets. This is particularly true in the area of Theater Missile Defense (TMD).

In my opinion, current joint doctrine has a void in the area of TMD, given the growing threat and our technological improvements within the last 5 years. While Joint Pub 3-01.5 recognizes the fact that TMD "is inherently a joint mission,"[7] I contend that current

joint doctrine does not maximize our immense joint potential. While this void between doctrine and TMD joint capabilities may not be significant today because of the relatively minor air and missile threats we've faced since Operation Desert Storm in 1991, I submit it will become more prevalent as our adversaries develop and employ credible air and/or TM capabilities.

This paper will examine these air and missile threats; U.S. capabilities to counter these threats; current joint doctrine; and propose a command and organizational change to joint doctrine that improves our ability to conduct Joint Theater Air and Missile Defense (JTAMD) operations. Specifically, joint doctrine should allow the JFC to establish a Joint Theater Air and Missile Defense Component Commander (JTAMDCC), who combines current Area Air Defense Commander (AADC) and TMD responsibilities under one command. This command is designed to fulfill one requirement for the JFC – the "full dimensional" force protection that can only occur by integrating the unique capabilities each service provides to the JTAMD fight.

The air and missile threat

As discussed during the introduction, the worldwide proliferation of TMs is an issue of significant concern to our senior political and military leaders. However, technological advances in the Air Breathing Threat (ABT) including fixed and rotary wing aircraft, as well as Unmanned Aerial Vehicles (UAVs), represent a growing area of alarm for some of our senior military leadership. Consider MG Claude M. Bolton Jr., USAF program executive officer for fighters and bombers, who noted "the F-15 – the premier US fighter since the mid-1970s – is already at parity with the performance of the Russian MiG-29 and SU-27/35, Eurofighter Typhoon, and French Rafale."[8] To emphasize this point, LTG (sel.) Bruce A.

Carlton (USAF), then director of operational requirements for the Air Force, stated "if we run the F-15 against the Rafale, or Typhoon, or Su-35, we would probably lose those fights."[9]

Fortunately, technological advances alone do not determine the overall quality of an air force. I agree with COL Doug Lincoln (USAF), Air Combat Command mission area requirements chief, who said "We hold a little bit of an edge [against potential threat aircraft] still because we can sustain our fleet a little bit better, and we have better training than the people we're facing."[10] The United States enjoys a qualitative advantage with "no peer competitor" in the world today. However, quality aircraft with the latest technological advances are available on the open market to any potential adversary with enough money to purchase them. As a result, it is possible that we could face an enemy with a credible air force in the future.

Many countries do not possess enough money to purchase and sustain quality aircraft in significant numbers, nor do they have sufficient personnel or other resources required to conduct demanding and realistic training. It is unlikely that these countries would fight the United States military using conventional air forces, which makes TMs (and the potential asymmetric threat they represent) an excellent alternative. According to the National Intelligence Council, WMD-armed long-range missiles enable weaker countries to do three things they otherwise might not be able to do: deter, constrain, and harm the United States.[11] Over 30 countries now possess TMs, and this number is expected to increase in the future. Recent news reports indicate that Russia is selling its latest cruise missile, the P-10 "Alfa" universal cruise missile, to India;[12] and that Iran reportedly sold Scud B and C missiles to the Democratic Republic of Congo in October 1999.[13] The proliferation of TMs around the

world is an extremely lucrative business for the "sellers", and a cost-effective means for our potential adversaries to achieve a level of military capability.

The TM threats facing the United States and its coalition partners include Ballistic and Cruise Missiles. Ballistic missiles are surface-launched, free-flight missiles that can carry conventional or WMD warheads.[14] These missiles are characterized as Short-range (under 1,000 km), Medium-range (1,000 – 3,000 km), Intermediate range (3,000 –5,500 km) and Intercontinental (over 5,500 km). Ballistic missiles can impact the tactical, operational and strategic commanders' operations. For example, consider the fact that Air and Sea Ports of Debarkation (APODs/SPODs) are no longer "sanctuaries" during deployment into a theater of operations against an enemy equipped with ballistic missiles capable of ranging these facilities. The JFC must now consider TMD and other full dimensional protection measures to ensure his forces can safely deploy into the theater. These measures may increase the time required to deploy the JTF into theater, and cause significant changes to the original plan.

Cruise missiles have low infared and radar signatures, making them hard to track. These missiles carry smaller conventional or WMD munitions against a target, when compared to a ballistic missile, but with a higher degree of accuracy and at a relatively cheaper cost.[15] Ballistic and cruise missiles also provide a small "footprint" (one or two vehicles), are highly mobile, and require little time to emplace and displace after firing. These characteristics make TMs difficult for the JFC to locate and target.

US Joint Theater Air and Missile Defense (JTAMD) capabilities

Given the diverse nature of the TM threat, it is clear that no single weapon system can defeat every ballistic and cruise missile variant. As a result, TMD can be described as a

"system of systems" that maximizes the capabilities of sea and land-based Surface-to-Air Missile (SAM) systems; naval and air power; and a Command, Control, Communications, Computers, and Intelligence (C4I) system to ensure situational awareness and integration of these weapon systems. Additionally, we are designing a "layered" TMD system that will increase the mobility and overall coverage of our systems, and provide multiple intercept opportunities. LTG Ronald Kadish (USAF), who is in charge of the Ballistic Missile Defense Organization (BMDO) stated, "Layered defense is critical to our warfighting success. Lower-tier (endoatmospheric) and upper-tier (exoatmospheric) systems are critical to achieve success and prevent unacceptable leakage."[16]

The United States is clearly leading the way in current and future TMD capabilities. (See Appendix A for a description of current and future JTAMD systems) However, technology and weapon systems are insufficient unless we employ a joint doctrine designed to fully integrate the services' unique TMD capabilities. In my opinion, current joint doctrine fails to accomplish this fundamental requirement. Before I explain the rationale behind my argument, let's examine current JTAMD doctrine.

Current Joint doctrine

Joint Publication 3-01 Joint Doctrine for Countering Air and Missile Threats, published on 19 October 1999, states that "The purpose of the joint counterair mission is to attain a desired degree of air superiority to allow freedom of action and protect the force."[17] Offensive counterair (OCA) operations are conducted to dominate the enemy's airspace and prevent the launch of threats, while defensive counterair (DCA) operations defeat enemy air threats after launch. These threats include enemy aircraft (manned or unmanned), ballistic missiles, and cruise missiles (air, land, or sea launched).[18]

In order to effectively and efficiently conduct counterair operations with our various weapon systems and C4I capabilities, our joint forces must maximize unity of effort, centralized planning, and decentralized execution. Joint Pub 3-01 describes how the JFC normally designates the Joint Force Air Component Commander (JFACC) as the supported commander for theater- and/or Joint Operations Area (JOA) -wide counterair. The JFACC is normally the service component commander having the preponderance of air assets and the capability to plan, task, and control joint air operations. After consulting with other component commanders, the JFACC makes air apportionment recommendations to the JFC including counterair (OCA and DCA), strategic attack, interdiction, and close air support.[19]

The JFACC establishes a Joint Air Operations Center (JAOC), which includes component liaison elements, to centralize air planning and operations functions. One of the JFACC's responsibilities is the development and execution of the Air Tasking Order (ATO), which is a daily schedule of all air activity. There are usually three ATOs at any time: today's (ATO in execution), tomorrow's (ATO in production), and the day after tomorrow's (ATO in planning).[20] Additionally, when assigned as the Airspace Control Authority (ACA), the JFACC develops the Airspace Control Plan (ACP), which is implemented through the Airspace Control Order (ACO). The ACO coordinates the use of airspace, including integration with the host nation and deconfliction of user requirements.[21]

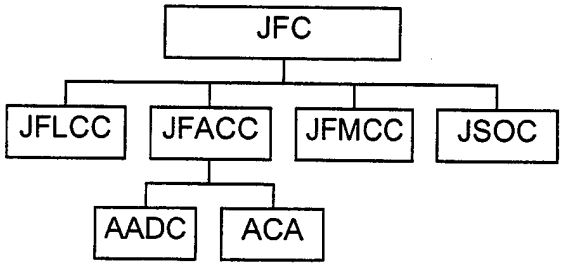
The JFC also establishes an AADC who, with the support of service or functional component commanders, develops, integrates, and distributes a JFC-approved Area Air Defense Plan (AADP). This plan includes an integrated and consistent Common Operational Picture (COP) available to all supporting command and control facilities. Additionally, the AADC (in conjunction with the J-2, J-3, and J-6) will develop and execute a detailed plan to

disseminate timely air and missile warning and cueing information for components, forces, allies, coalition partners, and civil authorities, as appropriate. Normally, the AADC is the component commander with the preponderance of air defense and C4I capability to plan, coordinate, and execute integrated air defense operations. The AADC also establishes weapons control procedures and measures for all DCA weapon systems and forces.[22]

TMD represents a potential "blurring" of the lines of authority and responsibility for the JFACC and AADC. Joint Pub 3-01.5 (Doctrine for Joint Theater Missile Defense) describes the four operational elements of TMD:

a. Passive defense – measures taken to posture the force to reduce vulnerability and minimize the effects of a TM attack.
b. Active defense – operations taken to protect against a TM attack by destroying TM airborne launch platforms and/or destroying TMs in flight.
c. Attack operations – operations taken to destroy, disrupt, or neutralize TM launch platforms and their supporting structures and systems.
d. C4I – systems used to coordinate and integrate the joint force capabilities to conduct and link passive defense, active defense, and attack operations.[23]

According the Joint Pub 3-01.5, the AADC is normally responsible for planning and executing TMD active defense operations, while the JFACC is normally responsible for TMD attack operations outside the component commanders' areas of responsibility. While unit commanders at all levels are responsible for passive defense measures, doctrine has not explicitly assigned component responsibility for C4I operations.[24] Unity of command is maintained as long as the JFACC and AADC are the same individual, which is the norm.



Current Doctrinal Command Structure with JFACC assigned as AADC and ACA

However, current doctrine recognizes situations where this is neither feasible nor desirable. For instance, consider situations requiring JTAMD operations afloat. The Theater Missile Defense Initiative (TMDI) 98, a CJCS-directed exercise and evaluation, demonstrated the Navy's ability to successfully conduct such JTAMD operations by employing a separate JFACC and AADC. During TMDI 98, the JFACC operated aboard the aircraft carrier, while the AADC located aboard an AEGIS platform. The physical separation between these two organizations resulted from space limitations and the capabilities of these different platforms.[25]

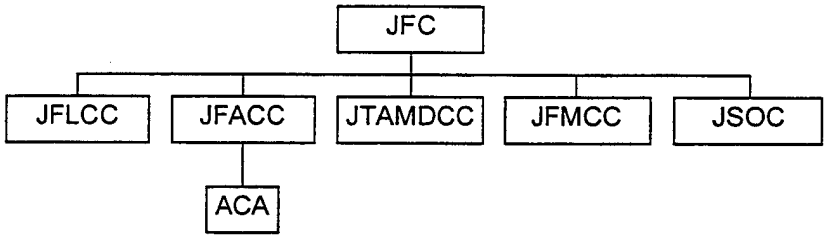
One of the significant deficiencies in current joint doctrine is its failure to provide sufficient guidance concerning the AADC's organizational structure, or the command relationship between the JFACC, AADC, and JFC. Thus, while TMDI 98 lauded the success of the Navy's ability to separate the JFACC and AADC during operations afloat, the JTF Commander (Commander Second Fleet) could not reference any Joint Publication for specific AADC organizational or command guidance. To emphasize this point, consider the fact that Joint Pub 3-01 Joint Doctrine for Countering Theater Air and Missile Threats was published well after TMDI 98 concluded, and still does not adequately address these issues.

Additionally, joint doctrine does not adequately delineate between JFACC, AADC, and TMD responsibilities. These doctrinal problems exist whether the JFACC and AADC are the same individual, or separate commanders. In either case, under current joint doctrine there is no single component commander specifically tasked to recommend TMD priorities to the JFC, or to organize and control the TMD fight. When the JFACC and AADC are the same individual (also known as "dual hatting"), the matter becomes more complicated as a result of increased span of control; inadequate organic staff personnel and expertise required

to simultaneously plan and execute air and TMD operations; and "TMD advocacy", which refers to the JFACC's responsibility to balance TMD requirements against competing demands for limited resources. One solution to fill this void in current joint doctrine is to replace the current AADC with a Joint Theater Air and Missile Defense Component Commander (JTAMDCC).

The Joint Theater Air and Missile Defense Component Commander (JTAMDCC)

As the title clearly states, this new functional component commander is directly responsible to the JFC for air and missile defense planning and execution. The JTAMDCC is not assigned to any single service component; in fact, its command structure includes representation from the land, air, and maritime components. This command promotes unity of effort by eliminating span of control problems associated with dual-hatting the JFACC; provides a single component commander to the JFC for JTAMD issues; and clearly defines the command relationship between the JFC, JFACC and JTAMDCC.



Proposed Command Structure with a JTAMDCC

The JTAMDCC is organized with a commander (air or maritime component) and two deputies (one land component, and one maritime or air component). One deputy is responsible for planning and executing TMD operations, while the other is dedicated to ABT counterair operations. Using this organizational structure, the deputy commanders are able to provide more detailed planning guidance to their respective staff officers; keep the "subject

matter experts" focused in their respective areas of expertise; and focus their efforts, within their areas of responsibility, during JTAMD execution.

A robust plans and operations staff from each component, as well as their subject matter expertise, is critical to the JTAMDCC's success. While this may sound "painful" to the component commanders required to resource this new command structure, it is not without successful precedent. The Army's draft Field Manual (FM) 44-94 AAMDC Operations currently states the AAMDC Commander may serve as a Deputy Area Air Defense Commander (DAADC) when required. The DAADC provides expertise on land-based air and missile defense operations, as well as AAMDC planning and operations resources, to support the AADC's mission.[26] Numerous exercises including Roving Sands 97, Ulchi Focus Lens 97 and 98, and TMDI 98 validated the role of the AAMDC Commander as a DAADC. During exercise Coherent Defense 97 the Multi-Service Analysis Support Team concluded, "The DAADC increased the AADC's ability to integrate and synchronize Air Defense/DCA operations in support of the JFC's mission."[27]

The JTAMDCC develops the AADP, which commences with a detailed Intelligence Preparation of the Battlespace (IPB) to predict the enemy's intentions and likely course(s) of action. Because the enemy represents one of the factors of METT-TC (Mission, Enemy, Terrain, Troops, Time available, and Civilian Considerations),[28] the IPB is essential in developing the Defended Asset List (DAL) that identifies priority assets receiving dedicated JTAMD protection. The JTAMDCC then determines the most effective and efficient means to utilize the joint and/or coalition forces' limited air and missile defense resources via positioning and control of these assets (i.e., Direct Support (DS), Operational Control (OPCON), Tactical Control (TACON), etc.); nominating targets to the JFACC for attack

operations; eliminating redundant or unnecessary tasking of JTAMD assets; identifying areas of acceptable risk; and ensuring C4I supports the AADP.

Service representation within the JTAMDCC's leadership and staff is essential to help reduce, if not eliminate, problems associated with the service "parochialism" that exists within the current joint command structure. Much of the parochialism relating to JTAMD is not intentional, but a consequence of vague joint doctrine based upon a purely ABT threat. The dangers associated with parochialism include the tendency to plan in isolation and protect service priorities at the exclusion of other joint and operational considerations. When resources are employed in this environment, whatever "jointness" is achieved often results from incidental protection, as opposed to a deliberate, coordinated effort. Consider the following situations from service component, then functional component command perspectives:

1. The "challenges" associated with OCA and TMD attack operations competing with service-nominated targets and other priorities for inclusion in the ATO. Who is the TMD attack operations advocate in the JAOC, or during the Joint Targeting Coordination Board (JTCB)?

2. An AEGIS platform and PATRIOT Battery are providing TMD protection for the same Sea Port of Debarkation (SPOD). If uncoordinated, this represents a potential waste of scarce resources.

3. Multi-mission capable AEGIS platforms are available for TLAM, sea control, or air defense missions.* Which component commander(s) is (are) recommending the most beneficial use of the platforms to the JFC?

* Situation paraphrased from Wright, Virgil S. "Area Air Defense Commander: Can JFACC do it all?" Unpublished paper, Newport, R.I., 5 February 1999, 10.

It is possible to reach different conclusions in these situations, depending upon one's perspective. What may best benefit a particular service, in a given situation, may not represent the best option for the JFC. The JTAMDCC's functional command and staff organizational structure integrates the three components that can address and resolve service-related concerns, issues, and biases "in-house". Additionally, the JTAMDCC depends upon service input and expertise to produce a single, coordinated AADP for the JFC that maximizes and synchronizes each of the services' unique capabilities. The JTAMDCC's robust and active C4I architecture provides the means to ensure connectivity across the other components within the JTF, and is essential to maintain effective situational awareness and timely TM launch warnings. This C4I system provides necessary communications networks to allow connectivity between planning and operations computer systems, and Tactical Data Information Links (TADIL) such as Link 16 to provide a Single Integrated Air Picture (SIAP) and COP across the JTF. This complex system requires a dedicated Joint Information Control Officer (JICO) and technical staff to plan, establish and maintain the C4I architecture. The JICO can review the AADP, and ensure the appropriate information links are established to ensure connectivity throughout the JTF. This means the JICO should work directly for the JTAMDCC and, in coordination with the J-6, have the authority to cross service boundaries to ensure the C4I system continues to provide a COP.[29] Joint Universal Lessons Learned (JULLS) from Roving Sands '97 and the TMDI 98 Final Report provide strong support for this critical position.[30]

In addition to maintaining the C4I architecture, the JTAMDCC will have to conduct extensive coordination with the other component commands. Given the nature of its mission, the JTAMDCC cannot afford to plan in isolation. Specifically, the JTAMDCC will

coordinate the DAL, which usually changes during each phase of a given operation, with other component commanders for tasking or positioning purposes. Additionally, the JTAMDCC will use its intelligence and sensor capabilities to nominate priority air and missile targets to the JTCB for attack operations. JTAMDCC plans and operations personnel will coordinate with the JAOC to ensure the ATO supports counterair mission requirements. When counterair or TMD attack operations resources are insufficient to accomplish the mission the JTAMDCC, as a functional component commander, can discuss the issue directly with the JFACC and, if necessary, elevate his concerns to the JFC for decision.

Additionally, the JTAMDCC will coordinate with coalition air and missile defense commanders to ensure unity of effort for JTAMD operations when a CJTF exists. Such coordination is a critical, albeit time-consuming requirement to ensure successful accomplishment of the JTAMD mission. This is especially true as our coalition partners continue to purchase and employ "state of the art" air and missile defense equipment. Consider the fact that the Kuwaiti military is currently equipped with PATRIOT Batteries; Japan possesses AEGIS ships; and the US government is considering selling military equipment, including four AEGIS warships, to Taiwan.[31] The JTAMDCC will include coalition air and missile defense resources while developing the AADP; establish command and support relationships; and ensure coalition partners receive access to appropriate C4I systems for improved situation awareness.

As the TMD advocate for the JFC, the JTAMDCC will review the theater Rules of Engagement (ROE) for a given operation in order to assess its impact on JTAMD operations. Restrictive ROE can significantly hinder our ability to conduct Intelligence, Surveillance and

Reconnaissance (ISR) operations to locate TM platforms.* Additionally, the ROE may place restrictions on our ability to attack WMD platforms due to collateral damage concerns. The JTAMDCC will coordinate with appropriate JTF staff agencies to ensure the ROE allows successful accomplishment of the JTAMD mission.

"Why can't JFACC also serve as the JTAMDCC?"

This question serves as a logical counterargument. With the exception of afloat operations, which are normally temporary until operations can be established and transferred ashore, not everyone is convinced of the necessity to assign separate JFACC and AADCs. Arguably, separating these two commands adds unnecessary bureaucracy to the JTF and compromises unity of effort. However, I submit that as we face adversaries who possess credible air and TM threats, the JFACC will encounter a span of control dilemma between managing the myriad of JTAMD tasks associated with counterair operations in his role as the JFC's TMD advocate, while simultaneously planning and executing more "traditional" air operations (strategic attack, interdiction, close air support, and the ATO process). In this instance, unity of command may not promote unity of effort as competing resource requirements and mission objectives result from dual hatting the JFACC as the AADC, and degrade the JFC's overall effort.[32]

Additionally, the JTAMDCC I've described is resource intensive, especially with respect to the organization's C4I architecture and personnel requirements including TMD subject matter experts. These resources are not normally available to the JFACC, and are largely unnecessary when enemy air and missile threats are low. The JFACC is resourced with component liaison elements such as the Naval and Amphibious Liaison Element

* As paraphrased from Cdr James, Paul, "TAMD", Lecture, U.S. Navy Warfare Development Command. Newport, R.I.: 18 January 2000.

(NALE); the Marine Liaison Officer (MARLO); and the Army's Battlefield Coordination Detachment (BCD). These staff organizations consist of experienced warfare specialists who work within the JAOC and provide component planning and tasking expertise and coordination capabilities.[33] While the liaison elements are specifically designed to assist the JFACC in successfully accomplishing his "traditional" duties, they have limited capabilities when the JFACC is also assigned as the JTAMDCC. This is because they lack the subject matter experts and depth in personnel to simultaneously plan and execute JFACC and JTAMDCC operations against an adversary with credible air and missile capabilities.

The JAOC could not easily absorb the additional resources associated with a fully equipped and manned JTAMDCC organization, especially considering the hardware and personnel requirements for the C4I architecture. These resources are necessary to accomplish the JTAMDCC's substantial planning, coordination, early warning, and operations responsibilities. The JFACC's problem of receiving and integrating this immense, new organization into the JAOC is compounded if there is little time available, such as in the case of a regional crisis. In this instance, the JFC would benefit by forming a separate component JTAMDCC as described in this document.

Conclusion

Our current joint doctrine fails to provide sufficient command and organizational guidance, as well as clear delineation of TMD responsibilities, whether or not the JFC appoints a separate AADC. The JTAMDCC fills this doctrinal void because of its specific JTAMD responsibilities (applicable whether or not the JTAMDCC is a separate commander), and the organization's exceptional capabilities to plan and execute JTAMD operations for the JTF. However, the reader should understand that the JTAMDCC does not represent an

"either/or" proposition; rather, it represents a separate and unique command structure the JFC can employ when the situation warrants. The JFC will determine the appropriate command structure after conducting an analysis of the factors of METT-TC; especially enemy air and missile capabilities, and friendly JTAMD resources. I support the JFACC also assigned as the JTAMDCC when the enemy air and missile threats are low during operations such as Allied Force in Kosovo. Such operations do not exceed the JFACC's span of control. However, the worldwide proliferation of aircraft and TMs suggests such operations will become less likely in future conflicts.

The JTAMDCC eliminates span of control problems associated with dual hatting the JFACC. However, while the JTAMDCC provides the joint force with an organization specifically designed to plan and conduct JTAMD operations, successful mission accomplishment depends exclusively upon coordination with the other component commands. The key to our future JTAMD success lies in our "jointness." In an era of limited force structure and other critical resources, we simply cannot afford to fight as separate services. We have not developed a "silver bullet" for JTAMD, and our success depends upon integrating the unique capabilities of all the services and our coalition partners.

We cannot wait until the enemy acquires sufficient air and missile resources before we address such an obvious doctrinal shortcoming. How will we know when this time has come? Ignoring this doctrinal shortfall will result in unnecessary casualties in some future conflict. Let's address the doctrinal issue of assigning the JFACC and JTAMDCC as separate commands now, and structure these organizations accordingly. We owe this to Joint Force Commanders and the soldiers, sailors, airmen and marines under their command.

Appendix A. U.S. JTAMD Current and Future Systems

Each of the services will bring unique systems and capabilities to the joint TMD fight. The Army's contribution for lower-tier defense includes the PATRIOT Advanced Capability-3 (PAC-3), the successor to PAC-2, which incorporates "hit to kill" technology. In other words, the PAC-3 is designed to directly hit and destroy a TBM warhead, as well as the potential WMD payload inside. The PAC-3 includes improvements to the missile and radar; enhanced classification, discrimination between the missile and clutter or debris, and identification capability; a remote launch capability; a TBM launch point determination upgrade; a PATRIOT/THAAD interoperability upgrade; and a capability to communicate TBM-related data in a joint services environment. These improvements were put to the test in 1999, and resulted in two direct hits against TBMs during testing.[34]

The Medium Altitude Air Defense System (MEADS), also known as Corps SAM, represents the Army's second lower-tier TMD system. MEADS is a multi-national effort with Germany and Italy, and is designed to provide 360-degree defense against TBMs and Cruise Missiles for combat maneuver forces as a replacement for the HAWK system.[35]

The Army's upper-tier TMD contribution to the joint fight is the Theater High Altitude Area Defense system (THAAD). THAAD's mission will be to engage TBMs at high speed over 100 kilometers into the atmosphere using "hit to kill' technology. The missile can travel at an unclassified speed of Mach 7, while the THAAD radar can identify launches quickly enough to allow a second engagement if the first is unsuccessful. Additionally, the system can precisely determine the impact point of the TM in order to provide timely and accurate Early Warning (EW).[36] In 1999, THAAD achieved two successful intercepts against TBMs during testing.[37]

The Air Force continues to work on its Airborne Laser (ABL) program, which will reside in a Boeing 747-400, and provide a self-deployable, long-range weapon capable of conducting "boost-phase" intercept above the cloud deck. The ABL is a high-energy (megawatt) chemical laser that is capable of destroying 30-40 enemy missiles during its 12 to 18 hour station time before refueling.[38] A major advantage of boost-phase intercept includes extending the TMD coverage into enemy airspace, which will keep WMD debris over enemy territory and reduce collateral contamination.

The Navy provides lower-tier TMD via the Navy Area Defense (NAD) system. NAD uses the AEGIS combat system, with the AN/SPY 1 Radar and SM-2 BLK IVA missile and provides protection against TBMs and Cruise Missiles. The Navy Theater Wide (NTW) and its SM-3 missile will provide upper-tier TMD against TBMs.[39] The tremendous mobility associated with AEGIS ships and the increased range provided by NTW provide the JFC with outstanding TMD capabilities.

The services also provide unique and invaluable C4I contributions to the TMD fight. The Joint Tactical Air Ground Station (JTAGS) is currently in use in Korea and Germany to provide the Unified CINCs with an organic, in-theater processing capability for Defense Support Satellite (DSP) ballistic missile launch warning data.[40]

The Navy's Cooperative Engagement Capability (CEC) is an evolving system that fuses high-quality TM missile tracking data from participating sensors, such as those aboard ships and planes. CEC then uses computer algorithms to create a single Common Operating Picture (COP) of objects in the air. The system could also link satellite data to enable earlier and more robust tracking of air and missile threats.[41]

The Army's Air and Missile Defense Command (AAMDC) is a TAMD command and control headquarters for Echelon Above Corps (EAC) ADA Brigades. The AAMDC supports the Joint Forces Land Component Commander (JFLCC) by integrating the four operational elements of TMD (passive defense, active defense, attack operations, and C4I) during joint and combined operations. This headquarters is equipped with a plethora of C4I capability, including over 15 specific computer/software systems to perform TAMD operations and approximately 20 external information feeds providing data required for mission accomplishment.[42]

END NOTES

[1] Clinton William. A National Security Strategy for a New Century. Washington, D.C.: Dec 99, p. iii.

[2] Ibid., 2.

[3] U.S. Joint Chiefs of Staff. Doctrine for Joint Theater Missile Defense (Joint Pub 3-01.5). Washington, D.C.: 22 Feb 96, p. vii.

[4] U.S. Department of Defense. Lkd. DOD News Briefing at "Defense Link New." Washington D.C.: 20 Jan 99. <http://ebird.dtic.mil/Jan2000/s20000106can.htm> (20 Dec 99)

[5] Dupont, Daniel G. "Administration Plans $2.2 Billion Increase for Expanded NMD Program." Inside the Air Force. 20 December 1999. <http://ebird.dtic.mil/Dec1999/e19991220concat.htm> (20 Dec 1999).

[6] Chairman, Joint Chiefs of Staff. Joint Vision 2010. Washington, D.C.: May 1997, 22.

[7] U.S. Joint Chiefs of Staff. Doctrine for Joint Theater Missile Defense (Joint Pub 3-01.5). Washington, D.C.: 22 February 1996, p. vii.

[8] Tirpak, John A. "Can the Fighter Force Hold Its Edge?" Air Force Magazine. January 2000. <http://ebird.dtic.mil/Jan2000/s20000106can.htm> (6 January 2000), 24.

[9] Ibid.

[10] Ibid.

[11] National Intelligence Council. "Foreign Missile Developments and the Ballistic Missile Threat to the United States Through 2005." September 1999. <http://www.cia.gov/cia/publications/nie/nie99msl.html> (20 December 1999).

[12] Ahmedullah, Mohammed. "Russia Sells Its Latest Cruise Missile to India." Defense Week. 30 November 99. <http://www.ebird.dtic.mil/Nov1999/e19991130russiasells.htm> (30 November 1999).

[13] Gertz, Bill. "Iran Sold Scuds to Congolese." Washington Times. 22 November 1999. <http://www.ebird.dtic.mil/Nov1999/e19991122iran.htm> (22 November 1999).

[14] "The Threat – Evolution and Future Trends." ADA Magazine. April-May-June 1997, 19.

[15] Ibid., 20.

[16] Case, Blair. "ADA Intercepts Make 1999 'Watershed' Year." ADA Magazine. 19 September 1999. <http://147.71.210/adamag/sep99/kadish.htm> (7 January 2000)

[17] U.S. Joint Chiefs of Staff. Joint Doctrine for Theater Countering Air and Missile Threats (Joint Pub 3-01). Washington, D.C.: 19 October 1999, p. II-6.

[18] Ibid., v.

[19] Ibid., pp. II-4, II-5.

[20] U.S. Joint Chiefs of Staff. Command and Control for Joint Air Operations (Joint Pub 3-56.1). Washington, D.C.: 14 November 1994, p. IV-5.

[21] U.S. Joint Chiefs of Staff. Joint Doctrine for Countering Theater Air and Missile Threats (Joint Pub 3-01). Washington, D.C.: 19 October 1999, p. II-6.

[22] Ibid.

[23] U.S. Joint Chiefs of Staff. Doctrine for Joint Theater Missile Defense (Joint Pub 3-01.5). Washington, D.C.: 22 February 1996, p. viii.

[24] Ibid., pp. x-xi.

[25] U.S. Atlantic Command. "Theater Missile Defense Initiative 98 – Final Report." Norfolk, VA: May 1999, 5.

[26] Headquarters, Department of the Army. AAMDC Operations (FM 44-94 – Final Draft) September 1999, p. 2-3.

[27] Zaborowski, Michael E. "Theater Missile Defense and the Deputy Area Air Defense Commander." ADA Magazine. July 1999. <http://147.71.210.21/adamag/jul99/command.htm> (4 December 1999), 4.

[28] Headquarters, Department of the Army. AAMDC Operations (FM 44-94 – Final Draft) September 1999, p. 1-6.

[29] Peterschmidt, Chris J. "Reevaluating Doctrine For Joint Theater Air and Missile Defense." Unpublished Research Paper, U.S. Naval War College, Newport, R.I.: 5 February 1999, 12 & "Joint Interface Control Officer (JICO)." (Roving Sands '97) JULLS No. 52238-94783. 22 May 1997. Unclassified. Joint Universal Lessons Learned.

[30] "Assessment – Plan, Establish, Employ a Joint Integrated Air Defense System." (Roving Sands '97) JULLS No. 71754-65520. 17 July 1997. Unclassified. Joint Universal Lessons Learned. & U.S. Atlantic Command. "Theater Missile Defense Initiative 98 – Final Report." Norfolk, VA: May 1999, 5.

[31] Gertz, Bill. "Pentagon Wants to Deal Arms to Taiwan." Washington Times. 21 January 2000. <http://ebird.dtic.mil/Jan2000/e20000121pentagon.htm> (21 January 2000).

[32] Williams, Charles F. "The Impact of the JFACC and AADC on the Joint Force Commander's Flexibility in Joint Theater Air and Missile Defense." Unpublished Research Paper, U.S. Naval War College, Newport, R.I.: 13 February 1998, 9.

[33] U.S. Joint Chiefs of Staff. Command and Control for Joint Air Operations (Joint Pub 3-56.1). Washington, D.C.: 14 November 1994, p. II-7.

[34] Case, Blair. "ADA Intercepts Make 1999 'Watershed' Year." ADA Magazine. 19 September 1999. <http://147.71.210/adamag/sep99/kadish.htm> (7 January 2000)

[35] Bonsignor, Ezio. "MEADS, Anyone?" Military Technology. December 1998, 14.

[36] Steele, Dennis. "ADA – A View Of the Future." Army. December 1999, 20-22.

[37] Case, Blair. "ADA Intercepts Make 1999 'Watershed' Year." ADA Magazine. 19 September 1999. <http://147.71.210/adamag/sep99/kadish.htm> (7 January 2000)

[38] Fogleman, Ronald R. "Theater Ballistic Missile Defense." Joint Force Quarterly. Autumn 1995, 78.

[39] Wright, Virgil S. "Area Air Defense Commander: Can JFACC do it all?" Unpublished Research Paper, U.S. Naval War College, Newport, R.I.: 5 February 1999, 8-9.

[40] Costello, John. "Space and Missile Defense: Success 1999, Focus 2000." Army. December 1999, 15.

[41] Skibitski, Peter J. "Pentagon Reverses Funding Decision on Missile Defense Link." Inside the Navy. 13 December 1999. <http://ebird.dtic.mil/Dec1999/s19991214reverses.htm> (13 December 1999).

[42] Zaborowski, Michael E. "Theater Missile Defense and the Deputy Area Air Defense Commander." ADA Magazine. July 1999. <http://147.71.210.21/adamag/jul99/command.htm> (4 December 1999).

BIBLIOGRAPHY

Ahmedullah, Mohammed. "Russia Sells Its Latest Cruise Missile to India." Defense Week. 30 November 99. <http://www.ebird.dtic.mil/Nov1999/e19991130russiasells.htm> (30 November 1999).

Ankersen, C.P. "A Little Bit Joint – Component Commands: Seams, Not Synergy." Joint Force Quarterly. Spring 1998, 116-121.

"Assessment – Plan and Execute Passive, Active and Attack TMD." (Roving Sands '97) JULLS No. 71756-96965. 17 July 1997. Unclassified. Joint Universal Lessons Learned.

"Assessment – Plan Establish, Employ a Joint Integrated Air Defense System." (Roving Sands '97) JULLS No. 71754-65520. 17 July 1997. Unclassified. Joint Universal Lessons Learned.

Bonsignor, Ezio. "MEADS, Anyone?" Military Technology. December 1998, 14-17.

Case, Blair. "ADA Intercepts Make 1999 'Watershed' Year." ADA Magazine. 19 September 1999. <http://147.71.210/adamag/sep99/kadish.htm> (7 January 2000)

Chairman, Joint Chiefs of Staff. Joint Vision 2010. Washington, D.C.: May 1997.

Chief of Naval Operations, US Navy. "Area Air Defense Commander (AADC) Capability Operational Requirements Document (ORD)." Washington, D.C.: 29 March 1999.

Clinton, William. A National Security Strategy For a New Century. Washington, D.C.: Dec 1999.

Costello, John. "Space and Missile Defense: Success 1999, Focus 2000." Army. December 1999, 17-22.

"DIG Assessment – Joint Airspace Management." (Tandem Thrust '95) JULLS No. 22161-04194. 26 November 1994. Unclassified. Joint Universal Lessons Learned.

Dupont, Daniel G. "Administration Plans $2.2 Billion Increase for Expanded NMD Program." Inside the Air Force. 20 December 1999. <http://ebird.dtic.mil/Dec1999/e19991220concat.htm> (20 Dec 1999)

Fogleman, Ronald R. "Theater Ballistic Missile Defense." Joint Force Quarterly. Autumn 1995, 75-79.

Gertz, Bill. "Iran Sold Scuds to Congolese." Washington Times. 22 November 1999. <http://www.ebird.dtic.mil/Nov1999/e19991122iran.htm> (22 November 1999).

BIBLIOGRAPHY (Cont'd)

Gertz, Bill. "Pentagon Wants to Deal Arms to Taiwan." Washington Times. 21 January 2000. <http://ebird.dtic.mil/Jan2000/e20000121pentagon.htm> (21 January 2000).

Headquarters, Department of the Army. AAMDC Operations (FM 44-94 – Final Draft) September 1999.

_____. Decisive Force: The Army in Theater Operations (FM 100-7) 31 May 1995.

"Joint Interface Control Officer (JICO)." (Roving Sands '97) JULLS No. 52238-94783. 22 May 1997. Unclassified. Joint Universal Lessons Learned.

Morgan, David J. "A Reexamination of the Joint Force Air Component Commander (JFACC) Concept For the 21st Century." Unpublished Research Paper, U.S. Naval War College, Newport, R.I.: 5 February 1999.

National Intelligence Council. "Foreign Missile Developments and the Ballistic Missile Threat to the United States Through 2005." September 1999. <http://www.cia.gov/cia/publications/nie/nie99msl.html> (20 December 1999).

Newman, Larry J. "Theater Missile Defense." Unpublished Research Paper, U.S. Naval War College, Newport, R.I.: 18 February 1998.

Peterschmidt, Chris J. "Reevaluating Doctrine For Joint Theater Air and Missile Defense." Unpublished Research Paper, U.S. Naval War College, Newport, R.I.: 5 February 1999.

Skibitski, Peter J. "Pentagon Reverses Funding Decision on Missile Defense Link." Inside the Navy. 13 December 1999. <http://ebird.dtic.mil/Dec1999/s19991214reverses.htm> (13 December 1999).

Steele, Dennis. "ADA – A View Of the Future." Army. December 1999, 17-22.

"Taiwan's Lee Hits China on Missiles." Washington Times. 26 November 1999. <http://www.ebird.dtic.mil/Nov1999/e19991126lee.htm> (26 November 1999).

"The Threat – Evolution and Future Trends." ADA Magazine. April-May-June 1997, 18-26.

Tirpak, John A. "Can the Fighter Force Hold Its Edge?" Air Force Magazine. January 2000. <http://ebird.dtic.mil/Jan2000/s20000106can.htm> (6 January 2000).

BIBLIOGRAPHY (Cont'd)

U.S. Atlantic Command. "Theater Missile Defense Initiative 98 – Final Report." Norfolk, VA: May 1999.

U.S. Department of Defense. Lkd. DOD News Briefing at "Defense Link New." 20 January 1999. <http://www.defenselink.mil/news/Jan1999/t01201999_t0120md.html> (20 December 1999)

U.S. Joint Chiefs of Staff. Command and Control for Joint Air Operations (Joint Pub 3-56.1). Washington, D.C.: 14 November 1994

_____. Doctrine for Joint Operations (Joint Pub 3-0). Washington, D.C.: 1 February 1995

_____. Doctrine for Joint Theater Missile Defense (Joint Pub 3-01.5). Washington, D.C.: 22 February 1996

_____. Joint Doctrine for Countering Theater Air and Missile Threats (Joint Pub 3-01). Washington, D.C.: 19 October 1999.

Williams, Charles F. "The Impact of the JFACC and AADC on the Joint Force Commander's Flexibility in Joint Theater Air and Missile Defense." Unpublished Research Paper, U.S. Naval War College, Newport, R.I.: 13 February 1998

Wright, Virgil S. "Area Air Defense Commander: Can JFACC do it all?" Unpublished Research Paper, U.S. Naval War College, Newport, R.I.: 5 February 1999.

Zaborowski, Michael E. "Theater Missile Defense and the Deputy Area Air Defense Commander." ADA Magazine. July 1999. <http://147.71.210.21/adamag/jul99/command.htm> (4 December 1999)